



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,006	12/14/2004	Kauko Janka	43289-211640	6705
26694	7590	12/10/2007		
VENABLE LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998			EXAMINER HOFFMANN, JOHN M	
			ART UNIT	PAPER NUMBER
			1791	
			MAIL DATE	DELIVERY MODE
			12/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No. 10/518,006	Applicant(s) JANKA ET AL.	
Office Action Summary	Examiner John Hoffmann	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____. | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) <input type="checkbox"/> Notice of Informal Patent Application
6) <input type="checkbox"/> Other: _____. |
|---|---|

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 22-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23: the term "reactants" (line 3) is indefinite as to its meaning and/or there is no antecedent basis for "reactants". Examiner could find no definition in the present specification that indicates that the plain meaning should not be used. The plain meaning of "reactants" is along the lines of "Molecules that act with one another to form a new set of molecules". Thus, in combustion and other forms of oxidation, one reactant is oxygen or another oxidants. Based on the reading of claim 23, it appears that applicant does not consider the oxidant to be one of the "all reactants". Thus applicant is clearly using some non-traditional meaning for "reactant". It is unclear what that definition may be.

The specification must clearly set forth the definition explicitly and with reasonable clarity, deliberateness and precision. *Teleflex Inc. v. Ficosa North America Corp.*, 63 USPQ2d 1374, 1381 (fed. Cir. 2002), *Rexnord Corp. v. Laitram Corp.* 60 USPQ2d 1851, 1854 (fed. Cir. 2001) and MPEP 2111.01.

If the present specification does have a definition, it appears to be hidden – it is not explicitly given with clarity, deliberateness and precision.

Claim 23, line 6: it is unclear what is meant by "in to a contact". It is unclear if it should be interpreted as "into contact", or "inwards toward a contact", or something else. Lines 7-8: there is no antecedent basis for "the components".

Claim 24: there is no antecedent basis for "the base materials and dopants". There is confusing antecedent basis for the particles of line 3: it is unclear if they are the particles of claim 23.

Claim 25: there is no antecedent basis for "the oxides" and confusing antecedent basis for "reactants" and "particles". At line 2: the language "fast" is a word of degree" which is imprecise unless a definition or guideline has been set forth in the specification or the term is otherwise well known in the art. See Seattle Box Co. v. Industrial Crating and Packing, Inc., 731 F.2d 818, 826, 221 USPQ 568, 574 (Fed. Cir. 1984). However, there is no evidence in application (nor is Examiner aware of any evidence) that the word "fast" has any art-recognized meaning. Nor is there any guidance or definition in the specification that would allow one of ordinary skill in the art to understand the meaning of the word "fast".

Claim 26: it is unclear if "oxidative gases" is the same thing as the "at least one oxidant" of claim 23. It is also unclear if the "preferably" is suppose to limit the claim. The "and/or" is indefinite as to its meaning – in particular because carbon dioxide comprises oxygen.

Claim 27: At line 2: the language "strong" is a word of degree" which is imprecise unless a definition or guideline has been set forth in the specification or the term is otherwise well known in the art. See Seattle Box Co. v. Industrial Crating and Packing,

Inc., 731 F.2d 818, 826, 221 USPQ 568, 574 (Fed. Cir. 1984). However, there is no evidence in application (nor is Examiner aware of any evidence) that the word "strong" has any art-recognized meaning. Nor is there any guidance or definition in the specification that would allow one of ordinary skill in the art to understand the meaning of the word "strong". There is confusing antecedent basis for the mixing.

Claim 28: there is no antecedent basis for "the formation of oxide particles". It is not understood what is meant by "intensified" - it is unclear if it means faster, or at a higher temperature, or higher heat flow, or what. It is also unclear as to relative to what standard it is intensified. For example, can one avoid infringement by always having the gases directed and having high intensity – even though there is no step of intensifying e.g. starting out with a lower intensity, and then increasing it. The same is true for claim 29.

Claim 29: it is unclear what is meant by "and/or" - in particular because if it is intensified, then it is achieved. There is no antecedent basis for "the fast oxidation".

Claim 30: there is no antecedent basis for "the Lavall nozzle". It is unclear in what way "the like" is "like" the Lavall nozzle.

Claim 31: it is unclear what is meant by a "used" inorganic compound. It is unclear by "base material". The base material of the type disclosed is always inorganic. Organic compounds would be oxidized - they cannot withstand the high temperatures formed. One would understand that oxide glasses with organic materials within them are not very transparent.

Claim 32: the term "glass material" is indefinite as to its meaning. No one in the art would consider the claimed materials as being "glass material".

Claim 33: It is unclear what is meant by "whose dopant" - it is unclear if it requires a dopant. It is unclear if "borium" should be barium or boron or thorium or what.

Claim 34: it is unclear if this claim further limits the forming of claim 23, or if it is an additional forming step: In other words, there is confusing antecedent basis for "formed". There is no antecedent basis for "the temperature". Examiner notes that furnaces general have numerous temperatures within a furnace – so locations are hotter than others. It is unclear if applicant's use of "the temperature" indicates that there is only one temperature and it is constant throughout, that all temperatures are within the range, or if it means that there needs only to be one temperature within the range.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Aslami
4212663.

All of the reactants (oxygen fuel and chlorides) are mixed in the burner. The Germanium tetrachloride, silicon tetrachloride and oxygen are carried through conduit 24, where they are mixed in with the fuel. See col. 5, lines 12-14, col. 2, lines 65-66, col. 3, lines 53-68; col. 4, lines 26-32, and figure 2. They are all heated by the flame 14. The gases are reacted and immediately form a supersaturated state. The material is condensed out of the supersaturated state and form soot. It is well understood that silica and other glasses have a very low vapor pressure, and that as soon as the chloride forms are oxidized, the resultant silicon dioxide molecules will condense into soot by the time it reaches the mandrel 10. Phase equilibrium would require the crystal form of silicon dioxide, glass is not crystalline, and thus phase equilibrium is not met.

Claim 24 is clearly met.

Claim 25: there is no standard for "fast" oxidation. It is deemed that there is at least one oxidation that takes longer than Aslami's oxidation - for example the oxidation (rusting) of a nail, or the oxidation/burning of an entire house.

Claim 26: they are all directed together.

Claim 27: as indicated above, all of the gases are mixed. It is deemed inherent that such was done with sufficiently strong turbulence to get the mixing. Mixing is deemed to be a type of turbulence.

Claim 28: It is deemed that the oxygen would be cooler than the chlorides, because the chlorides are being heated by 64.

Claim 29: substantially any flow of gas involves adiabatic expansion. Gases flow due to pressure differentials - from an area of relatively higher pressure, to an area of

lower pressure, thus when a gas is at its new lower pressure, it will have expanded accordingly.

Claim 30: it is deemed that nozzle 18 is "like" a Lavall nozzle, because both are made of solid matter and have passages for fluids.

Claims 31-34 are clearly met.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Moltzan, Dobbins and Keck are cited as being cumulative to Aslami.

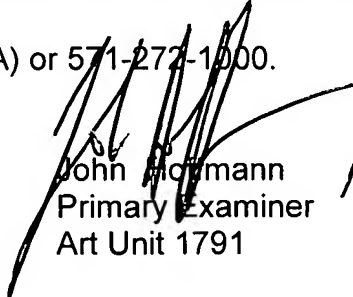
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/518,006
Art Unit: 1791

Page 8

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


John Hoffmann
Primary Examiner
Art Unit 1791

12/4/07

jmh

Whereas applicants can act as their own lexicographer, such has limits – for example, one cannot define "up" to mean "down". Examiner is of the